

ALTERNATIVE D-3 - GLENWOOD PARK AVE. RELIEF SEWER					
ITEM NO.	EST. QUANT	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
			UNIT PRICE CONSTRUCTION ITEMS		
1	5120	LF	21" - SDR 35 PVC GRAVITY SEWER PIPE	\$62.14	\$318,156.80
2	13	EA	PRECAST MANHOLE BASE - 48"	\$521.57	\$6,780.41
3	130	VF	MANHOLE SIDEWALL - 48"	\$68.99	\$8,968.70
4	13	EA	MANHOLE FRAMES & COVERS	\$225.20	\$2,927.60
5	100	CY	GRANULAR FOUNDATION MATERIAL	\$19.18	\$1,918.00
6	940	CY	SAND OR GRAVEL BACKFILL	\$14.38	\$13,517.20
7	150	SY	PVMT. REPLACE ASPH ROAD	\$27.16	\$4,074.00
8	252	SY	PVMT. REPLACE ASPH DRIVE	\$27.16	\$6,844.32
9	252	SY	PVMT. REPLACE GRAVEL	\$6.74	\$1,698.48
10	100	IN - DIA	TREE REMOVAL	\$18.75	\$1,875.00
11	2.8	AC	SEEDING & TOPSOIL	\$1,300.00	\$3,640.00
			LUMP SUM CONSTRUCTION ITEMS		
12	1	LS	CONNECTION ROUTE 97	\$8,700.00	\$8,700.00
13	1	LS	PUMP STATION CONNECTION	\$15,000.00	\$15,000.00
14	1	LS	BONDS & INSURANCE	\$6,911.50	\$6,911.50
			TOTAL CONSTRUCTION ESTIMATE (ITEMS 1 - 14)		\$401,012.01
			CONTINGENCIES (10% CONST. ESTIMATE)		\$40,101.20
			ENGINEER & LEGAL (11% CONST. & CONTINGENCIES EST.)		\$48,522.45
			TOTAL COST ESTIMATE ALTERNATIVE D-3		\$489,635.66

ALTERNATIVE E-3 - BEAVER RUN INTERCEPTOR RELIEF SEWER					
ITEM NO.	EST. QUANT	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
			UNIT PRICE CONSTRUCTION ITEMS		
1	4480	LF	27" - CLASS 4 RCP GRAVITY SEWER PIPE	\$71.43	\$320,006.40
2	12	EA	PRECAST MANHOLE BASE - 60"	\$1,000.00	\$12,000.00
3	144	VF	MANHOLE SIDEWALL - 60"	\$150.00	\$21,600.00
4	12	EA	MANHOLE FRAMES & COVERS	\$225.20	\$2,702.40
5	100	CY	GRANULAR FOUNDATION MATERIAL	\$19.18	\$1,918.00
6	1240	CY	SAND OR GRAVEL BACKFILL	\$14.38	\$17,831.20
7	120	SY	PVMT. REPLACE ASPH ROAD	\$27.16	\$3,259.20
8	205	SY	PVMT. REPLACE ASPH DRIVE	\$27.16	\$5,567.80
9	205	SY	PVMT. REPLACE GRAVEL	\$6.74	\$1,381.70
10	100	IN - DIA	TREE REMOVAL	\$18.75	\$1,875.00
11	100	LF	CONCRETE PIPE ENCASEMENT	\$133.61	\$13,361.00
12	1.4	AC	SEEDING & TOPSOIL	\$1,300.00	\$1,820.00
			LUMP SUM CONSTRUCTION ITEMS		
13	1	LS	CONNECTION PEACH STREET	\$8,700.00	\$8,700.00
14	1	LS	PUMP STATION CONNECTION	\$15,000.00	\$15,000.00
15	1	LS	BONDS & INSURANCE	\$7,405.34	\$7,405.34
			TOTAL CONSTRUCTION ESTIMATE (ITEMS 1-15)		\$434,428.04
			CONTINGENCIES (10% CONST. ESTIMATE)		\$43,442.80
			ENGINEER & LEGAL (11% CONST. & CONTINGENCIES EST.)		\$52,565.79
			TOTAL COST ESTIMATE ALTERNATIVE E-3		\$530,436.64

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MSA-MT 0932

EXHIBIT 3

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MSA-MT 0 934

Alternative B (Westside Relief/Interim Construction)

- B-1 Pittsburgh Avenue Interceptor
 - Complete Design - October 1992
 - DER Permit - January 1993
 - Complete Financing - June 1993
 - Award Contract - September 1993
 - Complete Construction - June 1994
- B-2 Greengarden Sewer
 - DER & Erie City Concurrence - December 1992
 - Complete Design - April 1993
 - DER Permit - July 1993
 - Award Contract - October 1993
 - Complete Construction - June 1994
- B-3 Clean Westside Interceptor/Repair Manor Drive
 - DER & Erie City Concurrence - December 1992
 - Complete Specifications - July 1993
 - Award Contract - October 1993
 - Complete Construction - June 1994
- B-4 Westside Relief Sewer
 - City Complete Studies - June 1995
 - DER Approval - January 1996
 - Municipal Agreements - January 1996
 - City & ESA Design Complete - September 1996
 - Financing Complete - December 1996
 - Complete Construction - May 1998
 - Abandon Overflow @ Kearsarge - May 1998

Alternative C (Railroad Interceptor)

- C-1 Clean & Examine Railroad/Pittsburgh Ave. Interceptor
 - 1) DER Concurrence - October 1992
 - 2) Complete Specs - January 1993
 - 3) Award Contract - March 1993
 - 4) Complete Effort - August 1993
- C-2 I&I Survey/Abatement
 - 1) DER Concurrence - October 1992
 - 2) Complete Specs - December 1992
 - 3) Award Contract - January 1993
 - 4) Complete Effort - August 1993
 - 5) *Abatement Spec - December 1993
 - 6) *Award Contract - March 1994
 - 7) *Complete Construction - September 1994
 - 8) *Confirm Results - December 1994
- C-3* Relief Interceptor/Repair
 - 1) Assess C-1 - November 1993
 - 2) Preliminary Design - January 1994
 - 3) Complete Design - May 1994
 - 4) DER Permit - August 1994

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- 5) RR Approval & PUC Approval - October 1994
- 6) Award Contract - December 1994
- 7) Complete Construction - November 1995

* If Necessary

Alternative D (Glenwood Pump Station)

D-1 Wood Street/Pump Station

- 1) Assess B-1, 2, 3 - September 1994
- 2) City Concurrence - December 1994
- 3) Preliminary Design - February 1995
- 4) Complete Design - June 1995
- 5) DER Permit - September 1995
- 6) Award Contract - December 1995
- 7) Complete Construction - November 1996

D-2 Cherry Street

- 1) DER Concurrence - October 1992
- 2) Prepare Specs - November 1992
- 3) Award Contract - December 1992
- 4) Complete Contract - April 1993

D-3 Glenwood Park Avenue

- 1) Complete Metering - March 1993
- 2) DER Concurrence - April 1993
- 3) Preliminary Design - June 1993
- 4) Township Agreement - August 1993
- 5) Design - December 1993
- 6) DER Permit - March 1994
- 7) Award Contract - April 1994
- 8) Complete Construction - December 1994

Alternative E (Beaver Run)

E-1 I&I Survey/Abatement

- 1) DER Concurrence - October 1992
- 2) Complete Specs - December 1992
- 3) Award Contract - January 1993
- 4) Complete Effort - August 1993
- 5) *Abatement Spec - December 1993
- 6) *Award Contract - March 1994
- 7) *Complete Construction - September 1994
- 8) *Confirm Results - December 1994

E-2 Metering

- 1) Install Meter - September 1992
- 2) Complete Metering - August 1993

E-3 Beaver Run Relief

- 1) Complete Surveys - August 1993
- 2) Complete Preliminary Engr. - October 1993
- 3) Township Agreement - December 1993
- 4) Complete Design - April 1994
- 5) DER Permit - July 1994

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- 6) Financing/Easements - September 1994
- 7) Award Contract - October 1994
- 8) Complete Construction - July 1995

Alternative F (West 32nd Priscilla to Legion)

F-1 Relief Sewer

- 1) Complete Preliminary Engr. - December 1992
- 2) Complete Design - March 1993
- 3) *Award Contract - May 1993
- 4) Complete Construction - October 1993

* If Needed

Alternative G (Storm Water Detention Basin)

- 1) Basin Design Complete - January 31, 1993
- 2) Basin Construction Begin - March 30, 1993
(Roll back topsoil)
- 3) Piping System Design Complete - March 30, 1993
- 4) Basin Complete - June 30, 1993
- 5) Contract for Piping Award - January 15, 1994
- 6) 2nd Contract for Piping Award - January 15, 1995
- 7) Construction of Storm Water Piping
System Complete - July 31, 1996

EXHIBIT 4

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MSA-MT 0 938

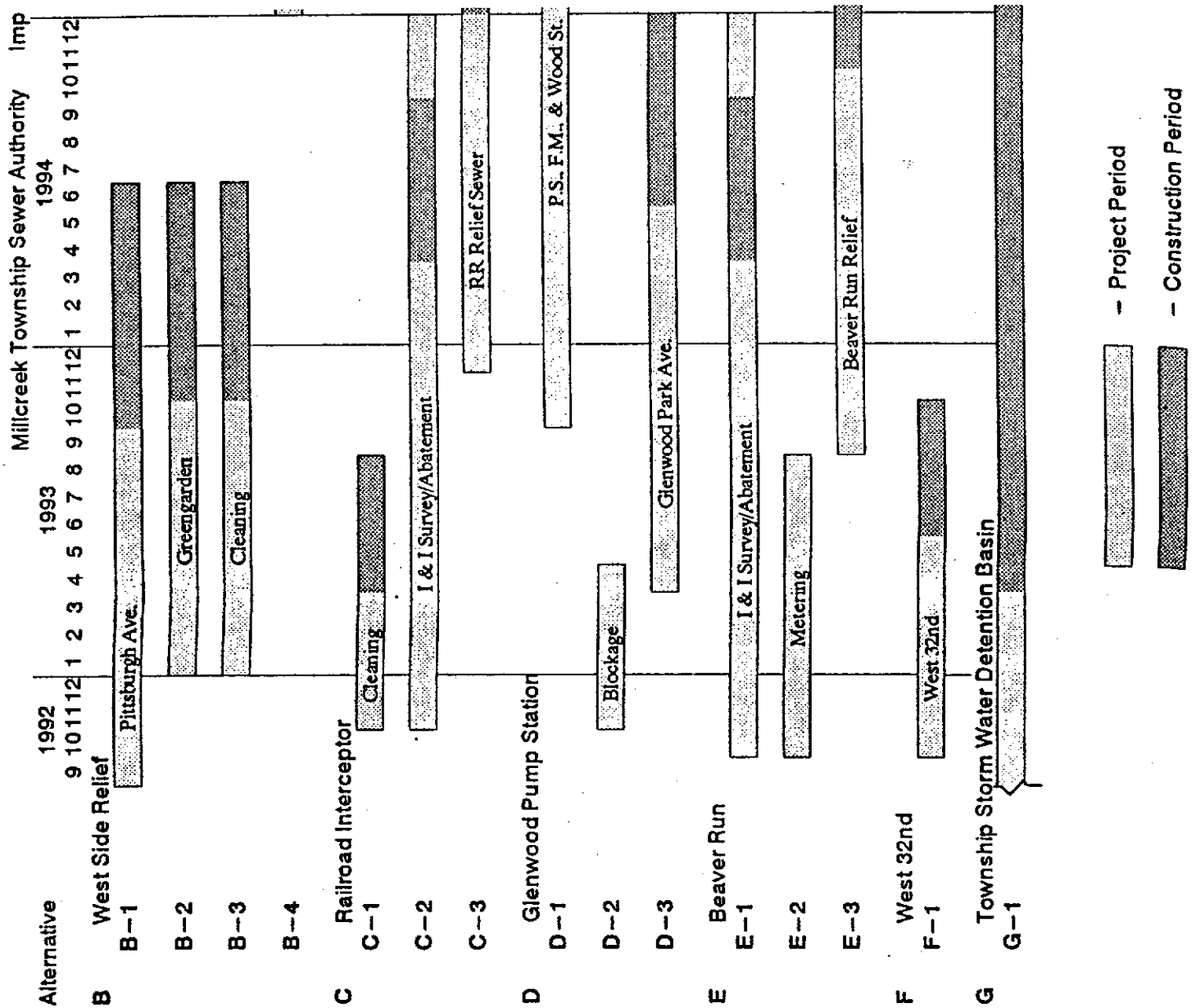


EXHIBIT 5

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MSA-MT 0 939



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
FIELD OPERATIONS - WATER MANAGEMENT

1012 Water Street
Meadville, Pennsylvania 16335
Telephone: A. C. 814/332-6942
Fax: A. C. 814/332-6831

MAR 11 1993

RECEIVED
MAR 12 1993
CT & A-ERIE

Subject: Official Sewage Plan Special Study Approval
Millcreek Township, Erie County

Millcreek Township Supervisors
c/o Jess Jiulianti III, Secretary
3608 West 26th Street
Erie, PA 16506

Gentlemen:

The Department of Environmental Resources hereby approves Alternatives B-1, 2, 3 and E-1 as presented in the Act 537 Plan-Special Study as a revision to the Official Sewage Plan of Millcreek Township. This approval is limited to these alternatives at this time. Under the January 7, 1992, Consent Order and Agreement (CO&A) between the Department and the Township, the Township is responsible to implement the program according to the schedule presented in the study, or face penalties for failure to do so. The implementation schedule as put forth in the Official Sewage Plan for Alternatives B-1, 2, 3 and E-1 approved by the Department is as follows:

Alternative B-1 - Pittsburgh Avenue Relief Sewer

- September 30, 1993 - Award contract for construction
- June 30, 1994 - Complete construction

Alternative B-2 - Greengarden Avenue Relief Sewer

- April 30, 1993 - Complete design and submit Part II permit application to DER
- October 31, 1993 - Award contract for construction
- June 30, 1994 - complete construction

Alternative B-3 - Clean and Rehabilitate Manor Drive and Westside Interceptors

- October 31, 1993 - Award contracts for construction
- June 30, 1994 - complete construction

CT 7 000 36

-2-

Alternative E-1 - Beaver Run I/I Survey and Abatement

-March 31, 1993 - Initiate Phase I
-November 30, 1993 - Complete Phase I

Alternative G - Storm Water Detention

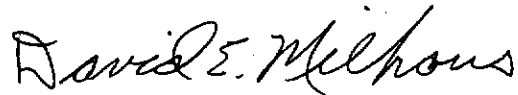
Although the Chestnut Hills Stormwater Detention Basin is only indirectly related to your Official Sewage Plan, the schedule for construction of this facility, which accompanied your Plan, will become an obligation of the CO&A once appropriate permits are issued by the Department.

As a result of our February 10, 1993 meeting, it was our understanding that the final detention basin schedule, as well as a comprehensive Official Sewage Plan Revision document, was to have been submitted during the first week of March. Please advise us as to the status of these items.

In addition to penalties for missed deadlines under the CO&A, failure to meet the above schedule will place Millcreek's Official Sewage Plan in a disapproved status. The Department would then be unable to approve Planning Modules for new land development in areas which are tributary to the Kearsarge pump station, including those in Summit Township.

If there are any questions on this matter, please do not hesitate to contact this office.

Sincerely,



David E. Milhous, P.E.
Regional Water Management Program Manager
Northwest Region

DEM/WTC/jb/D3

cc: Millcreek Township Sewer Authority
City of Erie
Summit Township Supervisors
Summit Township Sanitary Authority
Erie County Dept. of Health
Erie County Dept. of Planning
Consoer, Townsend & Associates

CT 7 000 37

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of:

MILLCREEK TOWNSHIP	:	
and	:	Clean Streams Law
MILLCREEK TOWNSHIP SEWER	:	Sewage Facilities Act
AUTHORITY	:	

CONSENT ORDER AND AGREEMENT

This Consent Order and Agreement is entered into this 31st day of October, 2003, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department"), Millcreek Township ("Township"), and the Millcreek Township Sewer Authority ("Authority").

Findings

The Department has found and determined the following:

- A. The Department is the agency with the duty and authority to administer and enforce The Clean Streams Law, Act of June 22, 1937, P.L. 1987, *as amended*, 35 P.S. §§691.1-691.1001 ("Clean Streams Law"); the Pennsylvania Sewage Facilities Act, Act of January 24, 1966, P.L. 1535, *as amended*, 35 P.S. §§750.1-750.20a ("Sewage Facilities Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. §510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").
- B. The Township is a municipal corporation organized and existing under the laws of the Commonwealth of Pennsylvania, maintaining and operating a sewage collection system in Millcreek Township, Erie County, Pennsylvania. The mailing address of the Township is 3608 West 26th Street, Erie, Pennsylvania 16506.

C. The Authority is a municipal authority incorporated under the Municipal Authorities Act of 1945, Act of May 2, 1945, P.L. 382 53 P.S. §§301-322, and maintains a mailing address of 3608 West 26th Street, Erie, Pennsylvania 16506. The Authority owns the sewage collection system maintained and operated by the Township in Millcreek Township, Erie County, Pennsylvania. The Authority leases the sewage collection system to the Township.

D. The City of Erie owns a sewage treatment plant which treats sewage from various townships and municipalities in Erie County, including the Township and Summit Township. Summit Township's sewage is conveyed through the Township's sewage collection system to the City of Erie sewage treatment plant. A portion of the sewage from the Township and Summit Township must pass through the Kearsarge pump station to ultimately reach the City of Erie sewage treatment plant. The City of Erie sewage treatment plant discharges treated sewage effluent into Lake Erie, a "water of the Commonwealth" as defined in Section 1 of the Clean Streams Law, 35 P.S. §691.1.

E. On January 6, 1984, Water Quality Management Permit No. 2583409 was issued to the Authority for modifications to the Kearsarge pump station and the construction of a new force main and sanitary sewer.

F. On June 24, 1991, the Authority notified the Department that an unauthorized manual relief valve and overflow line had been installed on a force main immediately down line of the Kearsarge pump station ("Kearsarge Overflow"). Since the time of installation of the Kearsarge Overflow, untreated sewage has been discharged on occasion via the Kearsarge Overflow from a force main exiting the Kearsarge pump station to Walnut Creek, "a water of the Commonwealth," as defined in Section 1 of the Clean Streams Law. The Township and Authority caused the periodic discharges to occur in order to prevent line surcharging and basement backups during heavy precipitation events.

G. On January 7, 1992, the Department, Township, and Authority entered into a Consent Order and Agreement ("1992 COA") to, among other things, remove the Kearsarge Overflow.

H. Paragraph 2.e. of the 1992 COA required the Township and Authority to, among other things, submit a schedule of corrective measures designed to increase capacity of sewage facilities tributary to the Kearsarge pump station and to provide a date when the Kearsarge Overflow would be removed.

I. On March 29, 1993, in a document entitled "Summary, Alternative Selection & Implementation Schedule Sewage Facilities Plan" ("1993 Plan and Schedule"), the Township and Authority provided the information required by Paragraph 2.e. of the 1992 COA to the Department.

J. Pursuant to Paragraph 3 of the 1992 COA, the 1993 Plan and Schedule was incorporated into the 1992 COA as an enforceable obligation of the 1992 COA.

K. The 1993 Plan and Schedule indicates that removal of the Kearsarge Overflow was conditioned upon the Township having full access to the City of Erie's proposed West Side Interceptor. The 1993 Plan and Schedule states that the Kearsarge Overflow would be removed one month after completion of the West Side Interceptor.

L. On or about July 1, 1999, the West Side Interceptor was completed. However, the Authority and Township did not have complete access to the West Side Interceptor until October 2000. Pursuant to the terms of the 1992 COA, the Kearsarge Overflow was to have been removed by November 2000.

M. The 1993 Plan and Schedule included, among other things, the completion of an infiltration and inflow study of the Kearsarge tributary area, a review of the capacity of the Kearsarge pump station and a determination of the appropriate remedy for removal of the Kearsarge overflow.

MSA-MT 6776

Completion of these tasks required coordination and cooperation among the Township, the Authority and the City of Erie.

N. The Township and Authority, in their November 13, 1992, letter, represented that capacities of the Kearsarge pump station and any necessary modifications to the pump station and force main would not be available until the extent of inflow and infiltration in the Kearsarge pump station tributary area and work necessary to abate it was known. The Township and Authority completed several studies, which indicated that the extent of inflow and infiltration in the tributary area was materially greater than had been assumed.

O. The Township and Authority have expanded their regulations regarding inspections and termination of unlawful connections to address inflow and infiltration in the Kearsarge pump station tributary area. Actions by the Township and the Authority have reduced sewage conveyance problems and increased available system capacity in the Kearsarge pump station, resulting in fewer occurrences of residential basement flooding in the tributary area.

P. Substantial inflow and infiltration remains in the areas tributary to the Kearsarge pump station, and the Township and the Authority continue to expand their program of inspections and termination of unlawful connections in the tributary area. The program includes, but is not limited to, inspecting properties and, where warranted, directing termination of unlawful connections to the sanitary sewer system and implementing regulations regarding permits or approvals so as to require identification and/or abatement of inflow and infiltration in tributary areas.

Q. Despite the system improvements described in Paragraph O, above, the Township and Authority continue to allow untreated sewage to be periodically discharged to Walnut Creek via the Kearsarge Overflow and from other areas tributary to the Kearsarge pump station. The Township and the Authority have reported the overflow events detailed on Exhibit A, which is attached and incorporated

herein, and have paid penalties for the reported overflows at the Kearsarge pump station in accordance with the 1992 COA.

R. As of the execution date of this Consent Order and Agreement, the Kearsarge Overflow has not been removed. The Township and Authority have fulfilled all other tasks detailed in the 1993 Plan and Schedule.

S. The discharge of untreated sewage into Walnut Creek from the Kearsarge Overflow and other areas tributary to the Kearsarge pump station violates Sections 201, 202, and 401 of the Clean Streams Law, 35 P.S. §§691.201, 691.202 and 691.401.

T. On February 25, 2003, the Township and Authority provided an updated schedule of activities to assure that the Kearsarge Overflow will be removed and overflow events from areas tributary to the Kearsarge pump station will be eliminated.

U. The Township's and Authority's failure to remove the Kearsarge Overflow pursuant to the 1993 Plan and Schedule as set forth in Paragraph R, above, is a violation of the 1992 COA and subjects the Township and Authority to stipulated penalties pursuant to Paragraph 9 of the 1992 COA.

V. The violations described in Paragraphs Q and S, above, constitute unlawful conduct pursuant to Section 611 of the Clean Streams Law, 35 P.S. §691.611; are statutory nuisances pursuant to Section 601 of the Clean Streams Law, 35 P.S. §691.601; and subject the Township and the Authority to civil penalty liability pursuant to Section 605 of the Clean Streams Law, 35 P.S. §691.605.

W. The Township and Authority have identified 16 homes along the Rinderle Drive and Moraine Drive reporting malfunctions of on-lot sewage disposal systems. A map depicting the location of the 16 homes is attached and incorporated herein as Exhibit B. The Township is seeking the agreement of a developer to construct public water and sewer lines serving the 16 homes as part of the

construction of an adjacent subdivision. The public sewer lines constructed by the developer will be tributary to the Kearsarge pump station.

Order

After full and complete negotiation of all matters set forth in this Consent Order and Agreement, and upon mutual exchange of the covenants contained herein, the Parties desiring to avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by the Township and the Authority as follows:

1. **Authority.** This Consent Order and Agreement is an Order of the Department authorized and issued pursuant to Sections 5 and 610 of the Clean Streams Law, 35 P.S. §§691.5 and 691.610; Section 10 of the Sewage Facilities Act, 35 P.S. §750.10 ; and Section 1917-A of the Administrative Code.

2. **Findings.**

a. The Township and the Authority agree that the Findings in Paragraphs A through W are true and correct and, in any matter or proceeding involving the Township, and/or the Authority, and the Department, neither the Township nor the Authority shall challenge the accuracy or validity of these Findings.

b. The Parties do not authorize any other persons to use the Findings in this Consent Order and Agreement in any matter or proceeding.

3. **Corrective Action.** The Township and Authority shall complete the following tasks no later than the dates specified herein to remove the Kearsarge Overflow and eliminate overflow events in areas tributary to the Kearsarge pump station:

a. On or before July 1, 2004, the Township and Authority shall jointly submit a complete and final Special Study as defined in 25 Pa. Code §71.1 to the Department which includes all

documentation requirements pursuant to 25 Pa. Code §71.31 of the Regulations ("Special Study"). The Special Study shall, at a minimum, include:

i. An evaluation of the following three alternatives to address the removal of the Kearsarge Overflow and elimination of overflow events tributary to the Kearsarge pump station: 1) the construction of a retention facility at the Kearsarge pump station; 2) the installation of an in-line booster on the Kearsarge force main; 3) the replacement of the Kearsarge pump station. Additional alternatives may be addressed in the Special Study.

ii. Selection of the most feasible alternative of those identified in the Special Study pursuant to Paragraph 3.a.i, above, which will result in the timely removal of the Kearsarge Overflow and elimination of overflow events tributary to the Kearsarge pump station.

iii. An implementation schedule which includes a date when the Kearsarge Overflow will be removed and overflow events from other areas tributary to the Kearsarge pump station will be eliminated. Said date shall be within 30 days of complete installation of the alternative chosen pursuant to Paragraph 3.a.ii, above.

b. Within nine months of the Department's written approval of the Special Study the Township and Authority shall submit a Water Quality Management Part II Permit Application, as well as any other required applications or information, to the Department for consideration and authorization of all facilities necessary for implementation of the alternative chosen pursuant to Paragraph 3.a.ii, above.

c. Construction of all facilities necessary for implementation of the alternative chosen pursuant to Paragraph 3.a.ii, above, shall be completed within 18 months of the Department's issuance of the Water Quality Management Part II Permit.

d. Within 30 days of completion of facilities described in Paragraph 3.c, above, the Township and Authority shall remove the Kearsarge Overflow and eliminate overflow events tributary to the Kearsarge pump station.

e. By December 31, 2006, the 16 homes along Rinderle Drive and Moraine Drive shall be served by a public sewerage system. The failure of the developer to construct the sewer lines and obtain the connection of the 16 homes along Rinderle Drive and Moraine Drive by December 31, 2006 shall not relieve the Township and Authority of its obligation to connect the 16 homes along Rinderle Drive and Moraine Drive to a public sewerage system. Subject to compliance with this subparagraph, connections for the 16 homes along Rinderle Drive and Moraine Drive shall be excepted from the annual connections limitations contained in Paragraph 4.a. and 4.b., below.

f. In addition to the measures set forth above, the Township and Authority shall continue a program of implementing measures to reduce inflow and infiltration into the sanitary sewer system in areas tributary to the Kearsarge pump station. The program may include, but will not be limited to, measures described in Paragraph P, above.

4. *New Connections Tributary to the Kearsarge Pump Station.* Upon execution of this Consent Order and Agreement, the Township and Authority will be limited in the number of connections tributary to the Kearsarge pump station as follows:

a. Commencing with the execution of this Consent Order and Agreement through December 31, 2003, the total number of new connections tributary to the Kearsarge pump station shall not exceed 79 connections.

b. Beginning January 1, 2004, and continuing until compliance is determined in accordance with Paragraph 22, below, the total number of new connections tributary to the Kearsarge pump station shall not exceed 133 connections in each calendar year.

c. For the purposes of Paragraph 4:

i. "tributary to the Kearsarge pump station" shall mean any sewage collection system that discharges sewage through the Kearsarge pump station; and

ii. one connection is defined as the connection of one individual residence or 400 gallons per day of sewage generated from any other connection.

iii. The Township and the Authority shall regulate new connections tributary to the Kearsarge pump station to comply with its obligations under this Paragraph 4.

d. If the Department determines that the Township and/or Authority are in violation of this Consent Order and Agreement, no connections tributary to the Kearsarge pump station shall be authorized until the Department determines, in writing, that the Township and Authority are in compliance with all terms and conditions of this Consent Order and Agreement.

e. The Township and Authority may request, in writing, that the Department consider exceptions to the annual connection limitation as specified in Paragraph 4.a. herein. Only those connections strictly meeting the criteria set forth in 25 Pa. Code §§94.54 – 94.57 will be considered and no exception shall be considered granted until the applicant is so advised in writing by the Department.

i. Requests for exceptions under 25 Pa. Code §94.54 must include the results of a comprehensive on-lot sewage disposal needs identification survey for the specific study area showing a confirmed malfunction rate to be equal to or greater than 25%. An acceptable comprehensive on-lot sewage disposal needs identification survey shall, at a minimum:

1) Be conducted by a person(s) knowledgeable of on-lot disposal systems who is able to recognize and confirm on-lot system malfunctions and illegal discharges through visual observation. Sampling and laboratory testing is not required;

2) include a map showing the results of the survey accompanied by a tabulation of survey results keyed to the map;

3) must be comprehensive; representative or questionnaire type surveys will not be considered; and,

4) include in the results only those systems identified as confirmed malfunctions through direct evidence of sewage. On-lot systems classified as suspect or potential malfunctions should not be included.

ii. Should the Township and Authority request exceptions to the annual connection limitation in order to eliminate a public health hazard by providing sanitary sewer service to a specific subdivision or area, the Township and Authority, in addition to meeting the criteria set forth at Paragraphs 4.e. and 4.e.i, above, shall provide an implementation schedule to the Department. Said schedule shall include, but may not be limited to, a final milestone date by when the area will be provided with sanitary sewer service and the public health hazard eliminated. Upon the Department's approval, the final milestone date will be incorporated into this Consent Order and Agreement as if set forth herein. The Township and Authority will be responsible for assuring that sanitary sewer service is provided to the specified subdivision or area by the date indicated and shall be subject to stipulated penalties set forth at Paragraph 9.a.

iii. Requests for exceptions pursuant to 25 Pa. Code §§94.55-94.57 must include documentation supporting the request including specific reasons why such a request should be granted.

f. The Township and the Authority may request to carry over unused connections from one calendar year to the next calendar year. The request shall be accompanied with documentation of estimated gallons per day of inflow and infiltration removed over the previous year resulting from the

removal of illegal connections and other completed inflow and infiltration removal work. The Department will consider such requests provided that no overflow events have occurred at the Kearsarge pump station or as the result of pumping from manholes in areas tributary to the Kearsarge pump station during the previous calendar year. No request to carry over unused connections will be considered should the Department find that the Township and the Authority are in violation of any term or condition of this Consent Order and Agreement.

5. *Quarterly Progress Reporting.* The Township and Authority shall jointly submit written quarterly reports to the Department to detail their efforts to comply with the requirements of this Consent Order and Agreement. At a minimum, the reports shall include the location, duration, cause, and amount of untreated sewage overflow events via the Kearsarge Overflow, and from areas tributary to the Kearsarge pump station, the number of new connections to areas tributary to the Kearsarge pump station over the reporting quarter, and a summary of progress to comply with the implementation schedule contained in the Special Study pursuant to Paragraph 3.a.iii, above. Quarterly reports shall be due on or before the 30th day after the end of each calendar quarter (i.e., Apr. 30, Jul. 31, Oct. 31, and Jan. 31).

6. *Termination of the 1992 Consent Order and Agreement.* Upon execution of this Consent Order and Agreement by all Parties, obligations of the Township and Authority pursuant to the 1992 COA shall terminate. The facts pursuant to the 1992 COA shall remain binding on the Parties.

7. *Submission of Documents.* With regard to any document that the Township and Authority are required to submit pursuant to this Consent Order and Agreement, the Department will review the Township and Authority document and will approve, modify, or disapprove the document, or portion thereof, in writing. If the document, or any portion of the document, is disapproved by the Department, the Township's and Authority shall submit a revised document to the Department that addresses the Department's concerns within a reasonable time, as specified by the Department. The

Department will approve, or modify and approve, the revised document in writing. Upon approval by the Department, the document shall become a part of this Consent Order and Agreement for all purposes and shall be enforceable as such.

8. *Civil Penalty Settlement.* Upon signing this Consent Order and Agreement, the Township and Authority shall pay a civil penalty in the amount of \$25,000. This payment is in settlement of the Department's claim for civil penalties for the violations set forth in Paragraphs U and V, above, covering the dates set forth herein. The payment shall be made by corporate check or the like made payable to "Commonwealth of Pennsylvania Clean Water Fund" and sent to the individual and address set forth in Paragraph 14 (Correspondence with Department), below.

9. *Stipulated Civil Penalties.* If the Township and/or the Authority fails to comply in a timely manner with any term or provision of this Consent Order and Agreement, the Township and Authority shall be jointly and severably in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a civil penalty in accordance with the following:

- a. For any violation of Paragraphs 3 through 5, herein, \$200 per day for each violation.
- b. For any sanitary sewer overflows via the Kearsarge Overflow or from any areas tributary to the Kearsarge pump station, including overflows resulting from manual pumping, occurring prior to the date specified in 3.d, above, \$2,500 for each event at each point of overflow.
- c. For any sanitary sewer overflows via the Kearsarge Overflow or from any areas tributary to the Kearsarge pump station, including overflows resulting from manual pumping, occurring after the date specified in Paragraph 3.d, above, \$5,000 for each event at each area of overflow.
- d. For any calendar quarter prior to completion of the corrective measures required under this Order during which the Township and the Authority fail to continue their program of

identifying and securing termination of unlawful connections to the sanitary sewer system, \$1,250 per each calendar quarter. It is understood that the number of inspections during particular seasons may be less than those at other times of a year.

e. Stipulated civil penalty payments shall be payable monthly on or before the 15th day of each succeeding month, and shall be forwarded as described in Paragraph 8 (Civil Penalty Settlement), above.

f. Any payment under this Paragraph shall neither waive the Township's and the Authority's duty to meet their obligations under this Consent Order and Agreement nor preclude the Department from commencing an action to compel the Township's and the Authority's compliance with the terms and conditions of this Consent Order and Agreement. The payment resolves only the Township and the Authority's liability for civil penalties arising from the violation of this Consent Order and Agreement for which the payment is made.

g. Stipulated penalties shall be due automatically and without notice.

10. *Additional Remedies.*

a. If the Township and/or the Authority fail to comply with any provision of this Consent Order and Agreement, the Department may, in addition to the remedies prescribed herein, pursue any remedy available for a violation of an order of the Department, including an action to enforce this Consent Order and Agreement.

b. The remedies provided by this Paragraph and Paragraph 9 (Stipulated Civil Penalties), above, are cumulative and the exercise of one does not preclude the exercise of any other. The failure of the Department to pursue any remedy shall not be deemed to be a waiver of that remedy. The payment of a stipulated civil penalty, however, shall preclude any further assessment of civil penalties for the violation for which the stipulated civil penalty is paid.

11. *Reservation of Rights.* The Department reserves the right to require additional measures to achieve compliance with applicable law. The Township and the Authority reserve the right to challenge any action which the Department may take to require those measures.

12. *Liability of Township and the Authority.* The Township and the Authority shall be liable for any violations of the Consent Order and Agreement, including those caused by, contributed to, or allowed by their members, supervisors, directors, officers, directors, agents, employees, contractors, successors, and assigns.

13. *Transfer of Site.*

a. The Township's and the Authority's duties and obligations under this Consent Order and Agreement shall not be modified, diminished, terminated, or otherwise altered by the transfer of any legal or equitable interest in the sewage collection system or any part thereof.

b. If the Township and the Authority intends to transfer any legal or equitable interest in the sewage collection system, or any part thereof, which is affected by this Consent Order and Agreement, the Township and the Authority shall serve a copy of this Consent Order and Agreement upon the prospective transferee of the legal and equitable interest at least 30 days prior to the contemplated transfer, and shall simultaneously inform the Department of such intent pursuant to Paragraph 14 (Correspondence with Department), below.

14. *Correspondence with the Department.* All correspondence with the Department concerning this Consent Order and Agreement shall be addressed to:

Mr. Anthony C. Oprendeck, Compliance Specialist
Water Management
Department of Environmental Protection
230 Chestnut Street
Meadville, PA 16335-3481
Telephone: 814-332-6942
Fax: 814-332-6121

MSA-MT 6787

15. *Correspondence with the Township.* All correspondence with the Township concerning this Consent Order and Agreement shall be addressed to:

Mr. Brian P. McGrath, Supervisor
Millcreek Township
Millcreek Municipal Building
3608 West 26th Street
Erie, PA 16506
Telephone:
Fax: 814-833-6615

The Township shall notify the Department whenever there is a change in the contact person's name, title, or address. Service of any notice or any legal process for any purpose under this Consent Order and Agreement, including its enforcement, may be made by mailing a copy by first class mail to the above address.

16. *Correspondence with the Authority.* All correspondence with the Authority concerning this Consent Order and Agreement shall be addressed to:

Mr. George W. Riedesel, Manager
Millcreek Township Sewer Authority
Millcreek Municipal Building
3608 West 26th Street
Erie, PA 16506
Telephone: 814-835-6721
Fax: 814-835-6615

The Authority shall notify the Department whenever there is a change in the contact person's name, title, or address. Service of any notice or any legal process for any purpose under this Consent Order and Agreement, including its enforcement, may be made by mailing a copy by first class mail to the above address.

17. *Severability.* The Paragraphs of this Consent Order and Agreement shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the Parties.

18. *Entire Agreement.* This Consent Order and Agreement shall constitute the entire integrated agreement of the Parties. No prior or contemporaneous communications or prior drafts shall be relevant or admissible for purposes of determining the meaning or intent of any provisions herein in any litigation or any other proceeding.

19. *Attorney Fees.* The Parties shall bear their respective attorney fees, expenses, and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this Consent Order and Agreement.

20. *Modifications.* No changes, additions, modifications, or amendments of this Consent Order and Agreement shall be effective unless they are set out in writing and signed by the Parties.

21. *Titles.* A title used at the beginning of any Paragraph of this Consent Order and Agreement may be used to aid in the construction of that Paragraph, but shall not be treated as controlling.

22. *Termination of Consent Order and Agreement.* The Township's and the Authority's obligations, but not the Findings, under this Consent Order and Agreement shall terminate when the Township and Authority have: 1) completed all of the tasks set forth in this Consent Order and Agreement; 2) achieved compliance with the Clean Steams Law and Regulations by having no overflow events from any areas tributary to the Kearsarge pump station, including those resulting from manual pumping, for a period of 24 months after the date that the Kearsarge Overflow has been removed; and, 3) paid any outstanding penalties due under Paragraph 8 and 9 of this Consent Order and Agreement. The Township's and Authority's compliance with this Consent Order and Agreement shall be determined by the Department and shall not be appealable by the Township or the Authority.

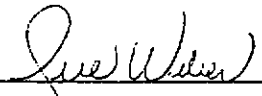
23. *Resolution for the Township.* Exhibit C, which is attached and incorporated herein, is a resolution of the Millcreek Township Board of Supervisors authorizing its signatories below to enter into this Consent Order and Agreement on their behalf is.

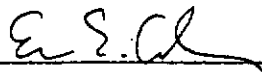
24. *Resolution for the Authority.* Attached as Exhibit C and incorporated herein is a resolution of the Millcreek Township Sewer Authority members authorizing its signatories below to enter into this Consent Order and Agreement on its behalf.

IN WITNESS WHEREOF, the Parties have caused this Consent Order and Agreement to be executed by their duly authorized representative. The undersigned representatives of the Township and the Authority certify under penalty of law, as provided by 18 Pa.C.S. §4904, that they are authorized to execute this Consent Order and Agreement on behalf of the Township and the Authority, that the Township and the Authority consent to the entry of this Consent Order and Agreement as a final ORDER of the Department; and that the Township and the Authority hereby knowingly waives their rights to appeal this Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, No. 1988-94, 35 P.S. §7514; the Administrative Agency Law, 2 Pa.C.S. §103(a) and Chapters 5A and 7A; or any other provision of law. Signature by the Township's and the Authority's attorneys certifies only that the agreement has been signed after consulting with counsel.

MSA-MT 6790

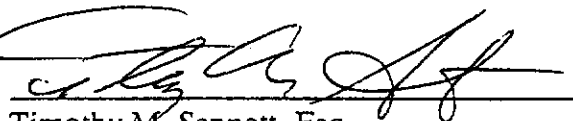
FOR MILLCREEK TOWNSHIP:


Sue Weber
Supervisor for Millcreek Township

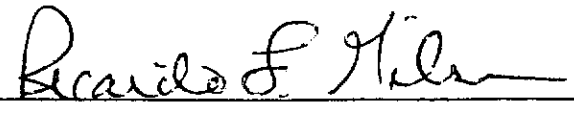

Evan Adair, Esq.
Attorney for Millcreek Township

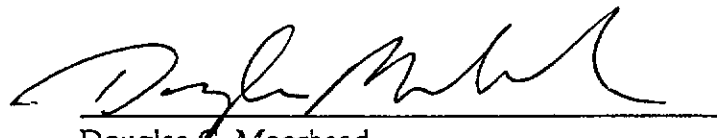
FOR MILLCREEK TOWNSHIP SEWER
AUTHORITY:


George W. Riedesel, Manager
For Millcreek Township Sewer Authority


Timothy M. Sennett, Esq.
Attorney for Millcreek Township Sewer Authority

FOR THE COMMONWEALTH OF
PENNSYLVANIA, DEPARTMENT OF
ENVIRONMENTAL PROTECTION:


Ricardo F. Gilson
Regional Manager
Water Management
Northwest Region


Douglas G. Moorhead
Assistant Counsel

COA-Final Template:5/17/02:COA:CN:ACO:jb:9/25/03:Millcreek1:yef 10/17/03

Exhibit A**Reported Overflows Tributary to Kearsarge Pump Station**

<u>Date of Occurrence</u>	<u>Location of Overflow</u>	<u>Volume Discharged</u>
December 30, 1992	Kearsarge Overflow	400,000 gallons
September 17, 1996	Kearsarge Overflow	unknown volume (12 hour duration)
February 27, 1997	Kearsarge Overflow	275,000 gallons
	51 st and Zimmerly	unknown volume
January 8, 1998	Kearsarge Overflow	300,000 gallons
	51 st and Zimmerly	unknown volume
	Larchmont and Spring Valley	unknown volume
	Pershing and Patton	unknown volume
December 14, 1999	Kearsarge Overflow	> 300,000 ≤ 1,000,000 gallons
August, 2000	Kearsarge Overflow	> 25,000 ≤ 74,999 gallons
	51 st and Zimmerly	unknown volume
November 7, 2000	Kearsarge Overflow	unknown volume
February 1, 2002	Kearsarge Overflow	108,000 gallons
	51 st and Zimmerly	unknown volume
	Larchmont and Beaver	unknown volume
April 14, 2002	Kearsarge Overflow	24, 999 gallons
	51 st and Zimmerly	unknown volume
	Church and Patton	unknown volume
September 29, 2003	Kearsarge Overflow	1,019,780 gallons
	51 st and Zimmerly	108,000 gallons

MSA-MT 6792

RINDERLE ACRES

PART OF TRACT NO. 347, MILLCREEK TWP.
 ERIE COUNTY, PENN.

SCALE: 1" = 200' APRIL, 11, 1925.

HILL & HILL
 CIVIL ENGINEERS

MSA-MT 6793

this plot is a true and correct survey of "Rinderle Acres"

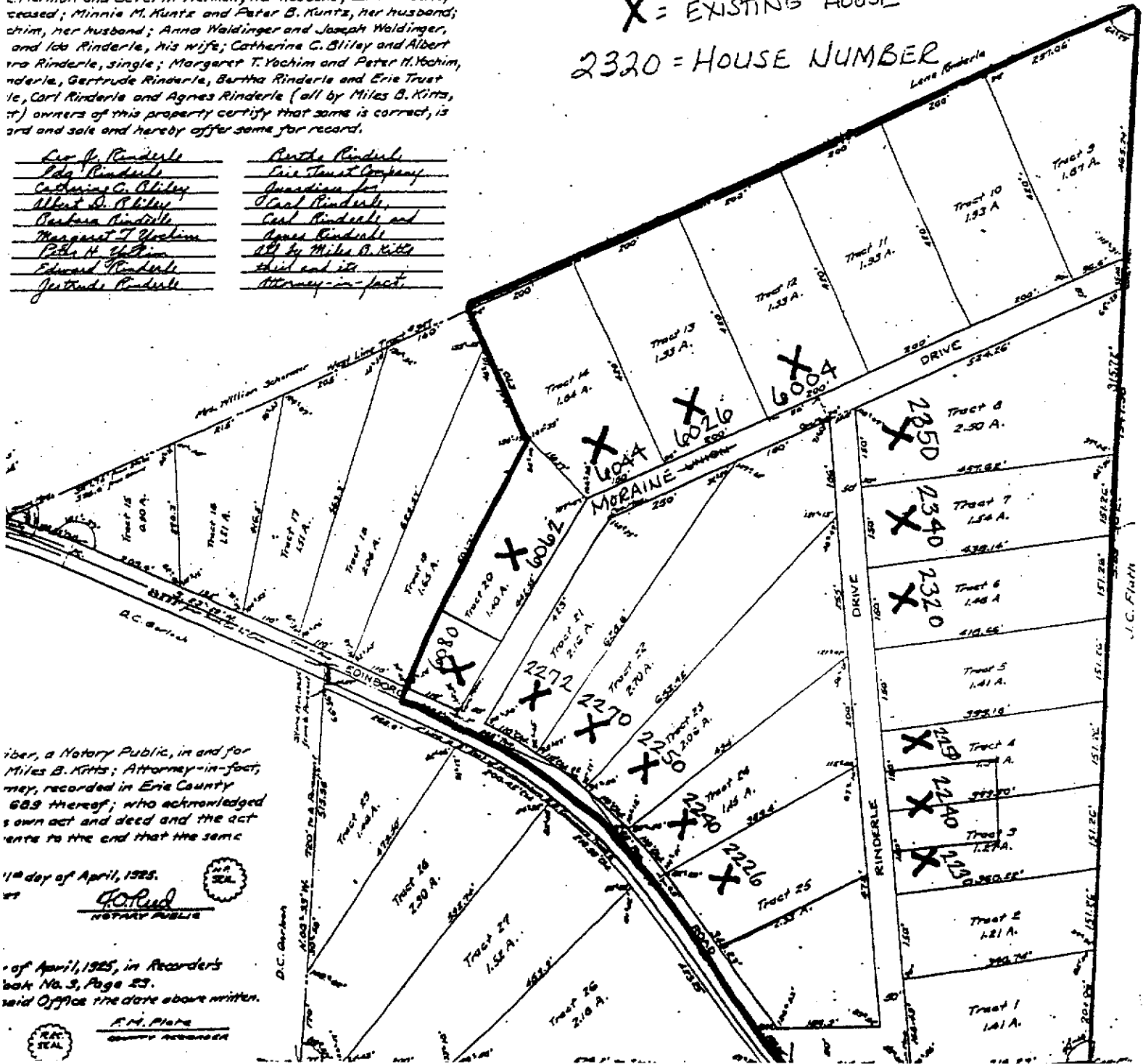
James P. Hill
 REGISTERED LAND SURVEYOR



X = EXISTING HOUSE
 2320 = HOUSE NUMBER

E. Herman and Severin Herman, her husband; Lena Rinderle, deceased; Minnie M. Kuntz and Peter B. Kuntz, her husband; John, her husband; Anna Waldinger and Joseph Waldinger, and Ida Rinderle, his wife; Catherine G. Bliley and Albert Ira Rinderle, single; Margaret T. Yochim and Peter H. Yochim, Rinderle, Gertrude Rinderle, Bertha Rinderle and Erie Trust Co., Carl Rinderle and Agnes Rinderle (all by Miles B. Kirtz, it) owners of this property certify that same is correct, is true and sale and hereby offer same for record.

<u>Leo H. Rinderle</u>	<u>Bertha Rinderle</u>
<u>Eda Rinderle</u>	<u>Erie Trust Company</u>
<u>Catherine G. Bliley</u>	<u>Guardians for</u>
<u>Albert G. Bliley</u>	<u>Carl Rinderle,</u>
<u>Barbara Rinderle</u>	<u>Carl Rinderle and</u>
<u>Margaret T. Yochim</u>	<u>Agnes Rinderle</u>
<u>Peter H. Yochim</u>	<u>all by Miles B. Kirtz</u>
<u>Edward Rinderle</u>	<u>trust and its</u>
<u>Gertrude Rinderle</u>	<u>Attorney-in-fact.</u>



iber, a Notary Public, in and for
 Miles B. Kirtz; Attorney-in-fact,
 may, recorded in Erie County
 68.9 thereof; who acknowledged
 s own act and deed and the act
 ents to the end that the same

1st day of April, 1925.

Notary Public

of April, 1925, in Recorder's
 book No. 3, Page 23.
 said Office the date above written.

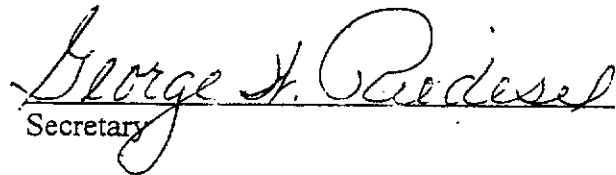
Notary Public

MILLCREEK TOWNSHIP SEWER AUTHORITY

RESOLUTION 2003-08

It is hereby RESOLVED by the Millcreek Township Sewer Authority that it has reviewed the Consent Order and Agreement between the Department of Environmental Protection, Millcreek Township and Millcreek Township Sewer Authority and upon recommendation of the Manager of the Millcreek Township Sewer Authority and Solicitor, does hereby approve the Consent Order and Agreement and authorizes the Manager and Solicitor to execute the Consent Order and Agreement.

This Resolution was adopted at a duly advertised special meeting of the Millcreek Township Sewer Authority at 3:30 p.m. on Thursday, October 23, 2003.


Secretary

MSA-MT 6794

RESOLUTION 2003-R-27

A Resolution to approve and authorize execution of a Consent Order and Agreement with the Pennsylvania Department of Environmental Protection with respect to compliance with the Clean Streams Law and the Sewage Facilities Act.

WHEREAS, Millcreek Township and the Millcreek Township Sewer Authority entered into a Consent Order and Agreement dated January 7, 1992 with the former Pennsylvania Department of Environmental Resources, with respect to effecting measures to protect against violations of the Clean Streams Law and the Sewage Facilities Act; and

WHEREAS, said January 7, 1992 Consent Order and Agreement, as supplemented by a March 29, 1993 Plan and Schedule, called for certain measures to increase capacity of the sanitary and storm sewer systems to reduce or eliminate discharges during storm events which constitute violations of State laws; and

WHEREAS, the January 7, 1992 Consent Order and Agreement deferred until after completion of measures therein called for studies and action to address capacity of the Kearsarge pump station and eliminate the Kearsarge bypass; and

WHEREAS, the Township and the Authority have completed all of the actions required of them under the 1992 Consent Order and Agreement; and

WHEREAS, said measures have substantially reduced, but not eliminated, discharges from the Kearsarge bypass; and

WHEREAS, the Pennsylvania Department of Environmental Protection (PaDEP) has advised the Township and the Millcreek Township Sewer Authority that actions are required to address capacity of the Kearsarge pump station and finally eliminate the Kearsarge bypass; and

WHEREAS, the Township and the Millcreek Township Sewer Authority have, together, negotiated with PaDEP specific terms relating to prior actions and a future course of action to address the defined objectives; and

WHEREAS, the Millcreek Township Sewer Authority has approved the negotiated Consent Order and Agreement in the form attached hereto; and

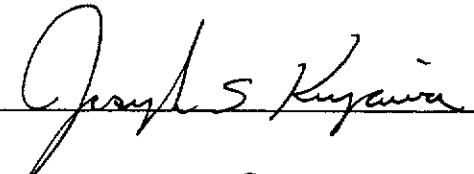

WHEREAS, the Board of Supervisors has determined that the Consent Order and Agreement addresses identified concerns of the Township and the Authority and meets requirements of PaDEP in a manner as reasonable and appropriate as can be negotiated.

NOW, THEREFORE, IT IS HEREBY RESOLVED by the Board of Supervisors of Millcreek Township as follows:

1. The proposed Consent Order and Agreement in the form attached hereto is hereby approved.
2. The Chair of the Board and the solicitor are authorized and directed to sign requisite signature copies of the Consent Order and Agreement on behalf of Millcreek Township.
3. The solicitor shall submit the signed documents to PaDEP and, upon receipt of a fully-executed copy, said document shall be maintained in a master Township file.
4. The manager, staff and members of the Millcreek Township Sewer Authority are commended for their assistance and close cooperation in negotiating this COA.

ADOPTED this 28th day of October, 2003.

MILLCREEK TOWNSHIP SUPERVISORS

MILLCREEK TOWNSHIP SEWER AUTHORITY

MILLCREEK MUNICIPAL BUILDING
3608 WEST 26TH STREET
ERIE, PENNSYLVANIA 16506

Phone (814) 835-6721

Fax (814) 835-6615

June 29, 2004

Mr. Anthony Oprendeck, Compliance Specialist
Water Management
PA Department of Environmental Protection
230 Chestnut Street
Meadville, PA 16335-3481

Dear Mr. Oprendeck:

As required by the Consent Order and Agreement between the PA DEP, Millcreek Township, and the Millcreek Township Sewer Authority, enclosed please find three copies of Volume I and Volume II of the Special Study for the Kearsarge Pump Station and Tributary Sewer Network Upgrade and Expansion.

Also enclosed in accordance with the instructions for an Act 537 Plan is an "Act 537 Plan Content and Environmental Check List." We ask that you forward the documents to the appropriate persons for their review. By carbon copy of this letter a separate copy of this document is being forwarded to the Erie County Health Department for their review.

Responses to the PA DEP's comments and the comments of others are referenced in Appendix A-2. The response directs the reader to the proper location in the document where the comment is addressed.

Please refer any comments or questions regarding this document to our consultant, Mr. Gerald Allender, Consoer Townsend Envirodyne Engineers, Inc., 155 West 8th Street, Erie, PA 16501, Phone No. 814-453-4394. Please carbon copy the Millcreek Township Sewer Authority and Millcreek Township with any comments or questions.

If you should desire to meet to discuss this report, our consultant, and we will be happy to do so.

Very truly yours,
Millcreek Township Sewer Authority

By: _____
George W. Riedesel, P.E., Manager

Enclosures

cc: CTE Engineers
Eric C. Kicher, PA DEP
Millcreek Township Supervisors

Erie County Health Department w/enc.
Summit Township Sewer Authority w/enc.
Summit Township Supervisors w/enc.

App. 185

MSA-MT 1418

**MILLCREEK TOWNSHIP
AND
MILLCREEK TOWNSHIP SEWER AUTHORITY**

**ACT 537 SPECIAL STUDY
KEARSARGE PUMP STATION
&
TRIBUTARY SEWER NETWORK
UPGRADE & EXPANSION**

JUNE 2004

VOLUME I



Prepared by:

**Consoer Townsend
Envirodyne Engineers, Inc.
155 West 8th Street
Erie, Pennsylvania 16501**

MSA-MT 2139

App. 186

MILLCREEK TOWNSHIP SEWER AUTHORITY

SPECIAL STUDY

KEARSARGE PUMP STATION

PREFACE

The Millcreek Township Act 537 Special Study addresses the needs of the Millcreek Township Sewer Authority's Kearsarge pump station and its tributary interceptor sewer system. This station collects the wastewater from Millcreek Township and Summit Township residents and businesses located in the vicinity of U.S. Route 19 south of the City of Erie (upper Peach Street). The wastewater is then pumped north over the ridge and ultimately reaches the Erie Wastewater Treatment Plant.

The study addresses existing and future flows. Presently the station has periodic overflows when its forward pumping capacity is exceeded during wet weather events. The proposed alternate to address these and future flows from growth in Millcreek and Summit is to increase the forward pumping capacity to address growth through 2014 and to provide storage to hold excessive flows during wet weather events and direct them back into the station once weather returns to normal and capacity is available to pump them forward to the City of Erie.

The wet weather events contributions selected for design are based on those observed to have caused problems over the last ten years with a contingency volume to allow for storms of greater intensity than observed. The storm selected is that believed to have a reasonable potential to coexist with the other environmental conditions concluded to create the excessive flows.

Future flows are based on service to future residential and commercial development and to existing residential development presently serviced by inadequate onlot disposal systems (septic tanks). The growth projected for Millcreek was based on full development at a density of 3 EDU/acre. The Summit flows were based in continued growth at their existing rate (88 EDU/year) through year 2014. The ultimate flows (after 2014) given in the study are limited to their committed maximum in their agreement with the City.

The future growth rate was reconciled with the projections found in the Erie County Planning Department's study of 2003 entitled "Erie County Demographic Study" and the "Population Census and Projection Data" provided by the PA DEP.

Tributary interceptors were examined and two were found to be at or over capacity at the design storm induced flows. The pump station surcharge when overloaded aggravates problems created by the overloaded sewers. In fact, the station surcharge can cause basement flooding on its own.

The recommended pump station project approved by the Millcreek Township Sewer Authority is to increase the observed forward pumping capacity by 700 to 1,000 gpm and provide storage of

500,000 gallons with storage pumping capacity of 2,340 gpm. The design is based on accommodating a one-year frequency storm during a wet saturated soil condition (an event greater than any noted to have coexisted in the ten years examined).

The Sewer Authority has also authorized the construction of a relief sewer for one overloaded sewer and has approved the diversion of flow from the other to a third sewer which has capacity.

The design growth period selected is ten years or 2014. This period was selected to allow the facilities to be reassessed to determine the needs for future growth. At that time it may be more desirable to proceed with greater forward pumping capacity; growth projections may have changed (over 75% of Summit's projected increases are due to service to existing residences and future commercial development); station influent flows may have been reduced due to successful efforts at I&I abatement; or wet weather flow need may have changed due to optimistic or pessimistic estimates of the contingency storm requirement.

The study estimates costs for the selected alternate and presents a financing proposal along with cost sharing suggestions between Summit Township and Millcreek Township.

The study is summarized in a six-page synopsis. Existing pump station conditions are described in Chapter VIII. Future growth projections are found in Chapter IX and the Selected Alternate's description, justification, and capital financing plan are found in Chapter XII.

June 1, 2004

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VOLUME II

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- B-1 Zoning / Floodplains / Wetlands**
- B-2 Millcreek Township Sewer Authority Basement Survey / Millcreek Township Sewer Authority Sewage Disposal Needs Assessment**
- B-3 Summit Township Sewer Authority Sewage Disposal Needs Assessment
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- B-4 Soils Map**
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KEARSARGE PUMP STATION

ACT 537 SPECIAL STUDY

SYNOPSIS

INTRODUCTION

The Kearsarge pump station is located adjacent to Walnut Creek south of Zimmerly Road, and 400 ft. east of the juncture of 51st Street and Zimmerly Road. It was constructed in 1958 and most recently modified in 1984. It receives flows from Millcreek Township south of the City (between Old Zuck Road and Clinton Streets). It also receives flows from the Summit Township Sewer system tributary to Route 19. The station and its tributary sewer network can be found on Figure I-a. Major interceptors are shown in red.

Approximately 20 to 25% of the flows received at the station come from Summit and 18% of the flows come from the areas north and west of the station. The remaining flows (55 to 60%) come from the areas in Millcreek, east and south of the station. Total drainage area to the Millcreek station from Millcreek is approximately 1,800 acres of which approximately 1,300 acres are tributary from the south and east. The majority of the area is residential with some institutional usage. However, there is a large commercial contribution consisting of some major water users (restaurants). There is over 200 acres of land devoted to commercial use.

Summit, likewise, has a large commercial contribution consisting of several heavy users [restaurants, hotels and recreational (theme parks)]. It's system also serves some older private sewer systems whose treatment plants were abandoned in favor of connecting to public sewers. Residential service is mostly due to newer construction, but that according to the Erie County Studies has been relatively slow. The major growth impact has been the commercial growth along the Route 19 corridor.

The present station has a forward capacity under normal wet well levels of 3,600 gpm. This capacity is periodically exceeded.

The Kearsarge pump station abandoned its gravity overflow in 1986. That overflow had been somewhat ineffective throughout the years since high waters often would prevent its use. As a result of the abandonment, the remaining gravity relief of the station in the event of overloading is at ground level. Long before this level is reached, basements will be flooded.

A diversionary overflow was placed on the force main from the station to allow the station pumping capacity to be increased by reducing friction loss. Flows continue to be passed forward to Erie and the treatment plant and just enough flows are bled off to allow the pumps to move sufficient flows to maintain or reduce station backups slowly. Since 1992, twelve overflows of this type have been documented (three since August of 2003).

App. 197



The PA DEP has placed the Millcreek Township Sewer Authority under a Consent Order to cease the use of the present system. Three general concepts are available to accomplish this goal. They are:

- Reduce influent flows
- Increase the pump station's forward flow capacity
- Divert flows above pump station capacity, store them, and bleed them back to the station once influent flows have been reduced below station capacity (overflow retention)

The Consent Order also requires that the sewer system be investigated to determine its capacity so as to eliminate the need to bypass pump in the system to protect from basement flooding. Three main interceptors enter the pump station and they were metered to determine flows so that the remaining capacity (either positive or negative) could be determined. The extension into the area where flooding had been documented was also investigated. The alternatives available to accomplish this task are similar to those available for the pump station, except that overflow retention is not as attractive.

SUMMARY

The report investigates the pump station and its tributary interceptors' present condition and recommends alternative fixes to the station and its tributary sewers to resolve deficiencies uncovered. The emphasis is to provide sufficient capabilities at the station and its tributary sewer system to address wet weather and storm events now and in the future. The study addresses ten-year and ultimate flows.

Recommended Design Concepts

Deficiencies Uncovered and the Recommended Upgrades include:

Pump Station Upgrade

The pump station's last major upgrade was in 1984. The evaluation indicates the following upgrades are needed regardless of the expansion alternates selected.

- New variable frequency drives (Bid Date 5/20/04)
- New controller (Bid Date 5/20/04)
- Replace pump #3 with pump identical to pumps #1 and #2 as a standby (10 State Standards)
- Provide automatic transfer switch for power protection
- Replace the generator with a larger unit
- SCADA
- Odor control
- Rain gauge

Pump Station Expansion

Three alternates have been proposed. As instructed by the PA DEP, none depend on flow reduction. Alternates have been limited to the ten-year need to allow for assessment of the abatement efforts underway before providing for the ultimate flows. However, a fourth alternate is provided which addresses the facility sizing needs in 2014 if flow reduction efforts are not successful.

Design flows were determined by constructing a hydrograph of an observed overflow event (base event) and then overlaying larger storm induced flow hydrographs (entitled contingency flows) on the base storm to approximate peak flow rates and volumes had that storm event coincided with the base.

Contingency flows were selected based on observed impacts of two storms, one with a NOAA frequency of 1-year and one with a 100-year frequency (NOAA curves are due to be updated in May of 2004). Table S-1 includes data on ten 1-year frequency storm induced flows used to determine their impact and Figure S-a gives the hydrograph of the flows resulting from the 100-year storm. It should be noted that all overflow events but one were associated with wet condition and rainfall intensities far less than those associated with intensities associated with a one-year event or greater (Table S-2). Further, no storms of "one-year intensity or greater" have been documented (in the ten years examined) during the wetter months (December through April). The critical period appears those of wet saturated ground events with small intensity storm, conditions created by atmospheric conditions which are not conducive to high intensity storms. The one exception (August of 2000) was one which was the result of a one-hour 1-year event followed by a two-hour 7-year event.

Table S-3 has been excerpted from the report and repositioned here to demonstrate the design flows proposed for use. The flow descriptions found in that table are described below.

The table term "existing flows" are those determined for the base overflow event.

Millcreek and Summit flows are peak flows anticipated due to continued residential and commercial growth in the area tributary to the Kearsarge pump station. Ultimate flows reflect a full build out of Millcreek and a controlled peak guaranteed by Summit Township Sewer Authority.

The contingency flow items refer to flows which could result in the event a storm of the stated occurrence frequency were to be encountered rather than the observed overflow event values over the past ten years. All overflow events observed have been associated with saturated conditions and a storm event with rainfall intensity significantly less than those associated with storms with a one year or less frequency. The "contingency" flows defined in the table would have allowed for a storm of either a 1-year or 25 to 100-year occurrence frequency to have been accommodated at the time of the base storm. Tables S-4, S-5, and S-6 give the storage pumping and capacity for three forward flow alternates (3,600 gpm, 4,500 gpm, and 5,500 gpm).